

Amendments to the claims

1. (Currently amended) A system for increasing fuel storage volume and fuel carriage capacity of external fuel stores suspended on an aerial vehicle by formation of at least one external extended fuel stores configuration, the system comprising:

at least one single functionality external fuel tank carrier pylon providing fuel tank carriage capability and fuel transfer and control capabilities from at least one externally carried fuel tank;

at least one dual functionality external fuel tank carrier pylon providing fuel tank carriage capability and fuel transfer and control capabilities from at least one externally carried fuel tank and to support fuel transfer and control capabilities for the at least one associated single functionality external fuel tank carrier pylon carrying at least one external fuel tank;

at least one single functionality external fuel tank carrier pylon providing fuel tank carriage capability and fuel transfer and control capabilities from at least one externally carried fuel tank;

at least one externally mounted Stores Transfer Kit to provide enclosure for at least one external fuel line and at least one external fuel control line linking between the at least one single functionality external tank carrier pylon and the at least one dual functionality external tank carrier pylon, said external fuel line is located externally to the aerial vehicle and connected to an existing fuel system of the at least one aerial vehicle;

whereby an alternative external fuel transfer and fuel control path is established between at least one external fuel tank carried by the at least one single functionality external fuel tank carrier pylon and the fuel system of the aerial vehicle via the at least one externally mounted Stores Transfer Kit, and the at least one dual functionality external fuel tank carrier pylon, such that the external fuel tank, carried by the at least one single functionality external fuel tank carrier pylon a pylon not connected to the fuel system of the aerial vehicle, is enabled to provides fuel directly to the fuel system of the aerial vehicle.

2. (Currently amended) The system according to claim 1 wherein the at least one dual functionality external fuel tank carrier pylon further comprises:

at least one first fuel connector to link a fuel transfer system of the at least one dual functionality external fuel tank carrier pylon to at least one fuel connector of the aerial vehicle fuel system;

at least one first compressed air connector to link a compressed air system of the at least one dual functionality external fuel tank carrier pylon to at least one compressed air connector of the aerial vehicle fuel control system;

at least one first electric power and signal connector to link an electrical system of the at least one dual functionality external fuel tank carrier pylon to at least one electrical and signal connector of the aerial vehicle fuel control system;

at least one second fuel connector to link the fuel transfer system of the at least one dual functionality external fuel tank carrier pylon to at least one fuel extension line installed in the at least one externally mounted Stores Transfer Kit;

at least one second compressed air connector to link the compressed air system of the at least one dual functionality external fuel tank carrier pylon to at least one compressed air extension line installed in the at least one external externally mounted Stores Transfer Kit;

at least one second electric power and signal connector to link the electrical system of the at least one dual functionality external fuel tank carrier pylon to at least one electrical and signal line installed in the at least one external externally mounted Stores Transfer Kit;

3. (Currently amended) The system according to claim 1 wherein the at least one single functionality external fuel tank carrier pylon further comprises the elements of:

at least electrical connector to link an electrical control system of the at least one single functionality external tank carrier pylon to a fuel system of the aerial vehicle;

at least one fuel connector to link ~~the-a~~ fuel transfer system of the at least one single functionality external fuel tank carrier pylon to at least one fuel extension line installed in the at least one externally mounted Stores Transfer Kit;

at least one compressed air connector to link a compressed air system of the at least one single functionality external fuel tank carrier pylon to at least one compressed air extension line installed in the at least one externally mounted Stores Transfer Kit;

at least one electric power and signal connector to link ~~the-an~~ electrical control system of the at least one single functionality external fuel tank carrier pylon to at least one electrical and signal line installed in the at least one externally-mounted Stores Transfer Kit.

4. (Currently amended) The system according to claim 1 wherein the at least one externally mounted Stores Transfer Kit comprises the elements of:

at least one aerodynamically shaped external envelope to protect the enclosed internal elements and to provide aerodynamic efficiency to the aerial vehicle to which the extended external fuel stores configuration is applied;

at least one extension fuel line linking a fuel transfer system of the at least one single functionality external fuel tank carrier pylon to a fuel transfer system of the at least one dual functionality external fuel tank carrier pylon;

at least one extension compressed air line linking the compressed air system of the at least one single functionality external fuel tank carrier pylon to a compressed air system of the at least one dual functionality external fuel tank carrier pylon;

at least one extension electric power and signal line linking an electrical system of the at least one single functionality external fuel tank carrier pylon to the electrical system of the at least one dual functionality external fuel tank carrier pylon.

5. (Original) The system according to claim 1 further comprises the elements of:

at least one fuel quantity monitoring device to display the quantity of fuel store in the at least one external fuel tank carried by the at least one single functionality external fuel tank carrier pylon; at least one display device to indicate the status of the at least one external fuel tank and the status of the at least one single functionality external fuel tank carrier pylon;

at least one control device to control the fuel transfer sequence from the operative fuel containers constituting the external extended fuel stores configuration.

6. (Original) The system according to claim 2 wherein the dual functionality external fuel tank carrier pylon further comprises a specific indicator to control the transfer sequence of the fuel stored in the at least one fuel tank suspended on the at least one single functionality external fuel carrier pylon and in the at least one external tank suspended on the at least one dual functionality external fuel tank carrier pylon.

7. (Cancelled)

8. (Original) The system according to claim 1 wherein the aerial vehicle is a multi-role military aircraft.

9. (Original) The system according to claim 8 wherein the aerial vehicle is a F-16 Fighting Falcon multi-role fighter aircraft.

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)
16. (Currently amended) The system according to claim 1 wherein the dual functionality external fuel tank carrier pylon is ~~an~~ standard external fuel tank carrier pylon converted to dual functionality role.
17. (Currently amended) The system according to claim 16 wherein the at least one dual functionality external fuel tank carrier pylon is a novel, specifically designed ~~to provide fuel tank carriage capability and fuel transfer and control capabilities and developed device.~~
18. (Currently amended) The system according to claim 1 wherein the at least one single functionality external fuel tank carrier pylon is a novel, specifically designed and developed device.
19. (Original) The system according to claim 1 wherein the elements of the extended external fuel stores configuration are transparent to the aerial vehicle.
20. (Original) The system according to claim 1 wherein the elements of the extended fuel stores configuration are detachably installed on an aerial vehicle.
21. (Original) The system according to claim 1 wherein the elements of the external extended fuel stores configuration include secondary control and emergency release means.
22. (Original) The system according to claim 1 wherein the at least one dual functionality external fuel tank carrier pylon is suspended on an inboard “wet” stores station having fuel transfer, control, refueling, monitoring, and jettisoning capabilities.
23. (Original) The system according to claim 1 wherein the at least one single functionality external fuel tank carrier pylon is suspended on at least one outboard wing “pseudo-wet” stores station having jettisoning capabilities.
24. (Previously presented) The system according to claim 23 wherein comprising a at least one outboard stores station is provided with a dual “pseudo-wet/dry” functionality allowing and supporting the carriage of at least one single functionality external fuel tanker pylon and other pre-defined stores.
25. (Original) The system according to claim 4 wherein the externally mounted Stores Transfer Kit is substantially re-configurable according to the types and variants of the

aerial vehicles to provide for optimal aerodynamic characteristics and acceptable flight envelope.

26. (Original) The system according to claim 4 wherein the externally mounted Stores Transfer Kit is operative in the transfer of fuel stores between at least two stores carriers.
27. (Original) The system according to claim 4 wherein the externally mounted Stores Transfer Kit is operative in the transfer of stores between an external store and an internal store.
28. (Cancelled)
29. (Cancelled)
30. (Cancelled)
31. (Cancelled)
32. (Cancelled)
33. (Cancelled)
34. (Cancelled)
35. (Cancelled)
36. (Original) The system according to claim 1 wherein the externally mounted Stores Transfer Kit includes extension fuel lines and extension compressed air lines with a variety of gauge sizes.